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Hazardous Material (HAZMAT) Orientation 612-302-03



Hazardous Material Definition



- "A substance or material which has been determined by the Secretary of Transportation to be capable of posing an unreasonable risk to health, safety and property when transported in commerce... The term includes hazardous substances, hazardous wastes, marine pollutants..."
- Title 49, Code of Federal Regulations



Definition of a HAZMAT Employee



- A hazardous materials employee is <u>any person</u> "...who directly affects hazardous materials transportation safety...
 - Loads, unloads, or handles hazardous material;
 - Prepares hazardous materials for transportation;
 - Is responsible for the safety of transporting hazardous materials; or



Definition of a HAZMAT Employee (Cont)



- Operates a vehicle used to transport hazardous materials."
- What does this mean to you as UMO and to personnel in your unit? Any one who handles, packages or ships any hazardous material is considered an <u>employee</u>.

Title 49, Code of Federal Regulations



Definition of a HAZMAT Employer



- A hazardous materials employer is defined as "a person who uses one or more of his employees in connection with:
 - Transporting hazardous materials ... Causing them to be transported or shipped in commerce...
 - This term includes any department, agency ...
 of the United States."



Definition of a HAZMAT Employer (Cont)



- You, as the UMO, become an "employer" when you direct troops to load out a vehicle or container containing HAZMAT.
- Make sure you know what unit personnel must do to correctly handle, package and certify HAZMAT.



HAZMAT Awareness



- The <u>minimal</u> level of training established by DOT requires HAZMAT employees to:
 - Recognize & identify hazardous materials shipments
 - Understand the numeric hazard class numbering system
 - Understand the hazards presented by the nine United Nations (UN) hazard classes & their subdivisions



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HAZMAT Awareness (Cont)



- Although the UMO <u>should not</u> be the HAZMAT certifier, the UMO must be aware of dangerous or potentially dangerous materials the unit is handling, shipping or storing
- Something as simple as a variety of consumer commodities could be potentially dangerous
 - Many "off the shelf" items from WD-40 to aftershave are classified by DOT as "Hazardous Materials"



Shipper's Certification



- Each person (shipper) who offers a hazardous material for shipment shall certify that the material offered is in accordance with the provisions of the applicable 49 CFR subchapter
- The person who certifies the information about the hazardous material must be certified according to 49 CFR, para 172.204

 (a) (2)



Penalties for Non-Compliance --Civil



- "Knowingly" violating the regulations
 - Making an "honest" mistake, i.e. failing to know something that should have been known, or failing to catch the error even if known
 - For example, one shipment has an incorrect label
- Fine: \$250 to \$27,500 dollars per day per every error or violation



Penalties for Non-Compliance -- Criminal



- "Willfully" violating the regulations
 - Making a conscious decision not to follow the rules
 - Example: Deliberately concealing or misdeclaring a shipment of hazardous material
- This is a felony offense & could result in fines of up to \$500,000 per day or up to 5 years in prison



Regulation Conflicts



 Always consult regulation for <u>specific</u> mode of transportation to be used to avoid conflicts









49 CFR



- Code of Federal Regulations for the transportation of hazardous material
- This publication is commonly referred as CFR 49



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49 CFR – Key Paragraphs



Useful paragraphs:

Para 171.8, Definitions & Abbreviations
Para 172.101, Hazardous Materials Table
Para 172.101, Appdx A, Table 1 - Hazardous
Substances other than Radionuclides
Para 172.101, Appdx B, List of Marine Pollutants
Para 172.504, Table 1&2, Category of Material
(Hazard class or division)
Para 172.704, Training Requirements



49 CFR – Hazardous Material Table



	§ 172.101 HAZARDOUS MATERIALS TABLE												
Syn-	Haganiaus materials decoto-	US ITABELIAES COORCEO- chien or FV. How Nive	jdertifica-		Label Special	Paole	(8) Packaging (§173.***)			(9) Quantity limitations		gj stovi-	
bols	tions and proper shipping names	class or Di- visites	bers	PG-	Codes		Excep- tions	Non- bulk	Buk	Passengor sircrativali	Corpo air- craft only	Loca- tion	Otter
19	(2)	(3)	(4)	(5)	(6)	Ø	(84)	(88)	(BC)	(94)	(98)	(10A)	(108)
	Acceliarene, see p- Nitrosodimetrylaniline.	h-ramovanano an											
	Accemolatore, electris, see Bat- tesies, well etc.												
D	Accumulators, pressurized, preumatic or hydrautic (outsishing aco-flavorable casi.	2.2	NA1956		22		106	306	None .	No linit	No limit	۸.	
	Acetif	3	UN1088.		3	17	150	208	242	5 L	60 L	E	
	Acetaldetyde	3	LIN 1089		3	A3, B16, T20, T26, T29	None	201	243	Forbidden	30 L	E	
A.	Acetaldelyde ammonia	9	UN 5341		9			204		200 kg	200 kg	A.	34
	Acetaldelyde coine	3	UN2332		3		150			60 L	220 L	A.	
	Acets sold, glasial or Acetic acid selution, with more than 80 percent acid, by mass.	,	UN2789	'	8,3	A3, A6, A7, A10 B2, TB	154	202	243	† L	30 L	A.	
	Acetic acid solution, not less than 57 percent but not more than 59 percent sold, by mass.		UN2790	- 1	8	A3, A6, A7, A10, B2, 18	154	202	242	† L	30 L	A	
	Acetic acid solution, with more	8	UN2790	U	8	18	164	200	242	5 L	60 L	Α	

			§	172.10	1 HAZAF	RDOUS MATER
Sym- bols	Hazardous materials descrip- tions and proper shipping names	Hazard class or Di- vision	Identifica- tion Num- bers	PG	Label Codes	Special provisions
(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Acetone		UN1090 UN1541 UN1091 UN1648	=======================================	3	2, A3, B9, B B32, B76, B N34, T38, T T7, T

1 HAZARDOUS MATERIALS TABLE

Label Codes	Special provisions	Packa Excep- tions	(8) ging (§17 Non- bulk	3.***) Bulk	Quantity i Passenger aircraft/rail	imitations Cargo air- craft only	(Vesse	0) (stow- ge Other
(6)	(7)	(8A)	(8B)	(8C)	(9A)	(9B)	(10A)	(10B)
			********			Access of the control of the control	,	
2.2		306	306	None	No limit	No limit	A	
							ì	
3	17	150	202	242	5 L	60 L	E	
3	A3, B16, T20, T26, T29	None	201	243	Forbidden	30 L	E	
9		155			200 kg	200 kg	A	34
3 8, 3	B1, T8 A3, A6, A7, A10	150			60 L 1 L	220 L 30 L	A	
LIMODE				240 1150	7.2	30 E	^	612 302 03

612-302



49 CFR (Cont)



§ 172.101 49 CFR Ch. I (10-1-99 Edition) TABLE 1 TO APPENDIX A-HAZARDOUS SUBSTANCES OTHER THAN RADIONUCLIDES-Communication Reportable quantity (RQ) pounds (kilo-grams) Hazardous substance Acetamide : 100 (45 Acetamide, N-(aminothicxomothyl)-1000 (454) Acetamide, N-(4-ethoxyphenyl)-100 (45.4) Acetamide, N-flucren-2-yl-1 (0.454) Acetamide, 2-fluoro- .. 100 (45.4) Acetic acid 5000 (2270) Acetic acid (2,4-dichlorophenoxy)-100 (45.4) In pounds/ Apetic acid, ethyl ester 5000 (2270) Acetic acid, fluoro-, sodium salt 10 (4.54) 10 (4.54) Acetic acid, feed (2+) sait kilograms Acetic acid, thallium(t+) salt ... 1000 (454) Acetic anhydride . 5000 (2270) Acetone ... 5000 (2270) Acetone cyanohydrin 10 (4.54) Acetonitrile 5000 (2270) Acetophenono 5000 (2270) 2 Acetylaminofluorene 1 (0.454) UMODPC 612-302-03



49 CFR (Cont)



§ 172.101

49 CFR Ch. I (10-1-99 Edition)

S,M.P.	Marine Pollutant	S.M.P.	Marine Poliutant
(1)	(2)	(1)	(2)
	Benzyl chloroformate	pp	Chlorpyriphos
PP	Binapacry!	PP	Chlorthlophos
_	N,N-B/s (2-hydroxycthyl) oleanide (LOA)		Coal tar
PP)	Brodifacoum		Coal tar naphtha
$\overline{}$	Bromine cyanide		Cocculus
	Bromoacetone		Cocontrille
	Bromoallylene		Copper aceloarsenite
	Bromobenzene		Copper arsenite
	ortho-Bromobenzyl cyanide		Copper divorce
	Bromocyane	C PP	Copper chloride solution
	Bromotorm	PP.	Conner cyapide
PP-	Bromophos-ethyl	PP	Copper metal powder
	3-Bromopropene	PP	Copper sulphate, anhydrous, hydrates
	Bromoxynil		Coumachlor
	Butanedione	PP	Courrephos
	2-Butenal, stabilized		Creosoté (coel tar)
	Butyl benzenes		Creceote (wood tar)
	Butyl benzyl phthalate		Cresols (o.; m.; p.)
	n-Butyl butyrate	PP	Cresyl ciphenyl phosphate
	N-teri-butyi-N-cyclopropyl-6-methylthio-1,3,5-triazine-		Cresylic acid
	2.4.dumino		Croculin orde codium call

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International Maritime Dangerous Goods Code (IMDGC)



Regulates International HAZMAT water shipments





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GENERAL INDEX



SUBSTANCE or ARTICLE	CODE PAGE	UN No.	CLASS	Pack- aging Graup	Subsidiary Risk Label(s)	EmS No.	MFAG Table No.
VOETVT N • 2000 -	317°	9801	9.1 3.2	1	-	3-06 3-06	330 380
ACETALDEHYDE P	310"	1089	3.1	Į		3 06	300
paramet, ALDEHYDE	sev 3372	1264	23	- 11	-	3-06	300
AVICNIMA EQUIDIDAMENT	9021	1841	9	11	-	8-07	320
ACETALCEHYCE DIE HYL ACETAL	see 3°01	1088	3.1	1	-	5-06	330
- 3mo -	say 3171	1588	3.5	1		8.06	330
BANKO BONHBC WINDER	3301	2332	33	ш	-	3-06	320
ACETALDOL	ын 6055	2839	fi	1	-	6 1-02	300
BMINOC_ATSCA-ted	sae 3301	2332	3.3	н	-	3-06	320
ACETIC ACID, GLACIAL	8100	2789	8	4	Flammable Tould	8-01	700
AGETIC ACID. SUBUITUN, mare than 80% acid by mass	8100	2789	A	1	Flammeble Tould	8-04	700
AGETIC ACID, SOLUTION, more than 30% but not more than 30% but not more than 30% but not but not but not but not but not not but not not not not not not not not not no	R100	2790	8	11		8-05	700
AGETIC ALDEHYDEP	see 3101	1069	3.1	1		3-06	900
ACETIC ANHYDRICE	8101	1775	8	1	Fiammable	6-04	7(0)

CLASS 3.2 - Flammable liquids

BENZOL Properties

Packaging group: II

Label of class

Colourless figuid with a characteristic eddur. Freezing point 5 C, flashes below its freezing point.

Immiscible with water.

Observations

Narcotic.

Exposure to this substance may produce serious chronic effects of a

toxic nature.

Packing

See table 3.4 in the introduction to this class.

For IBCs see section 26 of the General Introduction.

For tanks see section 13 of the General Introduction.

Stowage

Category B.

Clear of living quartors.

Packing, Stowage & Segregation

See also Conord Introduction and introduction to t

CLASS 3 - Flammable liquids

3.4 Packaging specifications

Note: For viscous liquids in packaging group III sec 3.3.4.

Inner	Outer	Maximur	Maximum gross mass or maximum liquid contents							
receptacle(s)	packaging	Packaging group	Low flashpoint	Intermediate flashpoint	High flashpoint					
Čarboy, glass.	Wooden box	1, II	prohibited	prohibited	75 kg					
etnatroo muraixam	(4C), (4D), (4F)	118	not applicable	not applicable	75 kg					
60 litres	Fibre drum	t, II	prohibited	prohibited	75 kg					
	[1G]	10	not applicable	not applicable	75 kg					
Carboy, g.ess,	Moulced expanded	1, 11	40 ×9	40 kg	40 kg					
maximum contents 25 litres	plastics tox (4H1)		not applicable	not applicable	55 kg					
Receptacles, glass.	Wooden box	1, 11	prohibited	125 kg	125 kg					
maximum pontents	(4C), (4D), (4F)	11	not applicable	not apolicable	225 kg					
10 litres	Solid plastics	1. II	prohibred	125 kg	125 kg					
	box (4H2)	H	not applicable	nol applicable	225 kg					
Receptacles, glass.	Wooden box	1, 11	125 kg	125 kg	125 kg					
maximum contents	(4C), (4D), (4F)	13	not applicable	not applicable	225 kg					
5 litres	Fibreboard box	1, 11	40 kg	40 kg*	40 kg*					
	(4G)	[3]	not applicable	not applicable	55 kg					
	Moulded expanded	1,"11	40 kg	40 kg	40 kg					
	plastics box (4H1)	111	not applicable	not applicable	55 kg					
	Solid plastics	1. II	75 kg	125 kg	125 kg					
	box (4H2)	III	not applicable	not applicable	225 kg					
Cars, meta:	Wooden box	1, 11	125 kg	125 kg	125 kg					
maximum contents	(4C), (4D), (4F)	II!	not applicable	not applicable	225 kg					
30 litres	Fibreogard box	1, 11	40 kg	40 kg*	40 kg*					
	(4G)	II!	not applicable	not applicable	55 kg					

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 Regulates dangerous goods shipments via commercial air





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TM 38-250/ AFJMAN 24-204





 Regulates dangerous goods shipments via military air

 This is a joint service publication



612-302-03



TM 38-250 (Cont)



SYM- BOL (I)	PROPER SHIPPING NAME/DESCRIPTION (2)	HAZARD CLASSIDIV (3)	UNTD NUMBER (4)	PG (5)	SUBSIDIARY RISK (6)	OF E-CEPTED	PACKAGING PARAGRAPH (8)
	Accellerene; see p-						
	NITROSODIMETHYLANILINE						
	Accumulators, electric; see BATTERIES, WET, etc.	2.2	NA1956			P5	A6.9
D	ACCUMULATORS, PRESSURIZED,	2.2	W/1920			10	7167
	PNEUMATIC or HYDRAULIC (containing						
	norflammable gus) see also, ARTICLES,						
	PRESSURIZED, etc.		100,000	- 11		PS	A7.3
	ACETAL	3	UN1068	11		P3, A3	A7.3
	ACETALDEHYDE	3	UN 1089	411		P5, A5 P5	A13.13
	ACETALDEHYDE AMMONIA	9	UN1841	III.		P5	A7.3
	ACETALDEHYDE OXIME	3	UN2332	m			
	ACETIC ACID, GLACIAL OF ACETIC	8	UN2789	11		P5, A3, A6.	A12.5
	ACID SOLUTION, with more than 80% acid, by most					A7, A10	4100
	ACETIC ACID SOLUTION, with move than	8	UN2790	Ш		P5, A3, A6,	A12.3
	10%, but not more than 80% acid, by mast					A7, A10	412.3
	ACETIC ANHYDRIDE	8	UN1715	ш	3	P5, A3, A6,	A12.3
						A7, A10	
	Acetic oxide; see ACETIC ANHYDRIDE						
	Acetoin: see ACETYL METHYL CARBINOL						
	ACETONE	3	UN1090	п		25	A7.3
	ACETONE CVANORYDRIN STABILIZED	6.1	UN1541	1		P2, 2, A3, N	04 A10.7



Multiple Regulations



 Each of these covers a different Transportation Mode. Be sure to use all that apply.





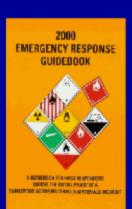




2000 Emergency Response Guidebook (ERG2000)



 A guidebook for first responders during the initial phase of a hazardous materials I dangerous goods incident







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612-302-03



ERG2000 -- Yellow



 Yellow section: Index list of dangerous goods in numerical ID number order

ID	Guide	Name of
No.	No.	Material
1090	127	Acetone



ERG2000 -- Blue



 Blue section: Index list of dangerous goods in alphabetical order of substance name

Name of	Guide	ID
Material	No.	No.
Sulfuric acid	137	1830



ERG2000 -- Orange



- Orange section: Safety recommendations & emergency response information for dangerous substances identified by guide number including:
 - Potential Hazards: lists any fire, explosion & health effects of substances that must be handled immediately



ERG2000 – Orange (Cont)



- Orange section (Cont):
 - Public Safety: tells response team the immediate isolation distances, protective clothing recommendations & suggested evacuation distances
 - Emergency Response: Provides guidance & activities for fire, spill or leak incidents & first aid procedures



ERG2000 -- Green



- Green section: Index list by numerical ID number of <u>only</u> those substances which are poisonous by inhalation
 - Includes initial isolation & protective action distances
- Remember: This publication <u>should not</u> be used to determine proper compliance





Unit HAZMAT Responsibilities



Unit Responsibilities



- Purpose is to provide guidance and send "Flags" to UMO's that certain equipment & materials may be defined as hazardous material.
- Some Items that are commonly shipped by deploying units: Oxygen & Acetylene cylinders; other compressed gases; various batteries & battery acids; mogas, diesel fuel & other POL products; antifreeze; fire extinguishers; mineral spirits, paint & paint thinner.



Unit Responsibilities (Cont)



- Appendix D, FM 55-65 gives direction on tasks that need to be accomplished to comply with HAZMAT regulations
 - Determine Proper Shipping Name
 - Determine the Hazard Class(s)
 - **9** Determine the mode(s) of transportation
 - Make sure proper labeling is applied



Unit Responsibilities (Cont)



- Make sure you select proper packaging
- 6 Ensure packaging is properly marked
- Prepare packing/load lists as required
- 9 Determine the proper placarding of vehicles
- 9 Determine the segregation requirements
- Ensure water commodity/special handling codes are entered into AUEL



Shipper's Dangerous Goods Checklist



SHIPPERS DANGEROUS GOODS CHECKLIS FOR NON-RADIOACTIVE BIOLOGICAL SHIPI	•
SHIPPERS DECLARATION FOR DANGEROUS GO	OODS (DGD).
IS THE FOLLOWING INFORMATION AS PRESENT A SHIPPERS DECLARATION OF DANGEROUS GO AND/OR WAYBILL CORRECT AND COMPLETE?	
CHECK ALL APPROPRIATE BOXES. YES	Quantity and Type of Packing. YES N/A
Two copies in English and in the IATA format. Full name and address of Shipper Full name and address of Consignee.	Number and type of Packages. Quantity and unit of measure per package. Packing instruction number.
LIMODRO	eta 302

statement for infectious Substances.		
Name and Title of signatory, Place and Date indicated.		
Signature of Shipper.		
Amendment or alteration signed by Shipper.		
On the Air Waybill.		
The Handling Information box shows:		
"Dangerous goods as per attached Shippers Declaration".		
Cargo Aircraft Only, if applicable.		
Packing conforms with packing instructions and is undamaged.		
	Substances. Name and Title of signatory, Place and Date indicated. Signature of Shipper. Amendment or alteration signed by Shipper. On the Air Waybill. The Handling Information box shows: "Dangerous goods as per attached Shippers Declaration", Cargo Aircraft Only, if applicable. Packing conforms with	Substances. Name and Title of signatory, Place and Date indicated. Signature of Shipper. Amendment or alteration signed by Shipper. On the Air Waybill. The Handling Information box shows: "Dangerous goods as per attached Shippers Declaration". Cargo Aircraft Only, if applicable. Packing conforms with



Shipment Papers



- 49 CFR requires every shipment of HAZMAT be accompanied by shipping papers & a shipper's certification
 - Must be legible
 - Printed mechanically or manually
 - Printed in English
- The description must include:
 - Proper shipping name entered first or in contrasting color

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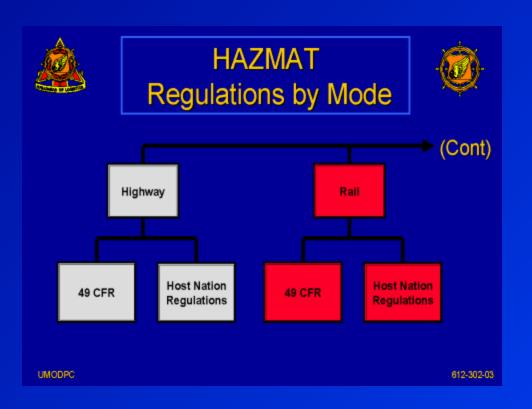
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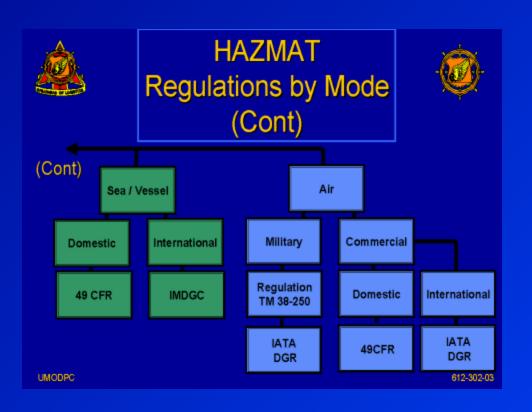
Shipment Papers (Cont)



- The description must include (Cont):
 - Hazardous class or division
 - Identification Number
 - Packing Group in Roman numerals
 - Total quantity
 - Emergency response telephone number

In that order







DD Form 836



 Provides emergency response instructions to drivers of all organic vehicles transporting explosives or hazardous materials on public roads

HAZMAT//BAZMA		- 1977-0				470000	
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1.a. NOMENCLATURE:		CONTAINER	SEAL NO.			e. TON NUMBER	:
b. MODEL NO.:		4. SENDLE SO.				f. BUMPER NO.	
DANGEROUS GOODS SHIPPING PA FOR HAZARDOUS MATERIALS TRA							
2. SHIPPER/ADDRESS/TELEPHONE NO.	3. LOCA PREPA	TION AND DA RED	TE S HIPME?	NT	4. DAT	E OF TRAVEL	5. PAGE I OF
	Pt Evotiq	KA DD/MM/YY			DD/MM	MAA	PAGES
6. CARGO (To be completed by the unit or shipper	Transportat	ion Office (T. i	2.))				
PROPER SHIPPING NAME	EASARD	UNIDO	PACKENG	PACE	T CES	NET TOTAL	TOTALAMMO
(the lade R.G. Technical Hames, Additional Information per 48 CERT 72.268, as required.) 6.	BIVE DE	NUMBER 4.	GROUP 4.	e. RAMBER	f.	GROSS WI. Pd.	(N 100F) h.
Certridges for Wespons	1.2E	LW0321	σ	d	ВX	4 Rds	14.631kg
RQ, Heracklorocyclopentadiene, Toxic Inhalation Mazard Zone B	6.1	UN/28 46	ſ	3	.DR	15kg	
(Fort personnelcomplete Rems 7 and 8.) 7. PORT OF EMBARKATION (OCCIVIS only)		I a. SHIP NA	NE (O COMO	/5 on(p)		b. YOYAGENUS	ви
F. CONSENEE		D.E.		200	7		
10. REMARKS	U	D Fo	rm (550			
11s. COPY OF EMERGENCY GUIDE NUMBER(S)			ATT	CHED (2)	e back o	f thu form.)	

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EMERGENCY RESPONSE INFORMATION

Quide Numbers 183 and 184 from the U.S. Department of Trung original North-American Emergency Response Guide Book (\$59 & Bitth) To me very observed hereon. These guides are applicable to hence d'Class I materials (Explosives). Mak as X in the appropriate tox.



USE OUTDE 112 FOR EXPLOSIVES. TORE OFFICE REPRESENTATIONS AND THE TRAINING €1.45 Class C

For all other hazardous materials or substances, anaptare appropriate emergency Response Oulde Book Ouide Number in the blook H. a.; and attech a copy of the sade number giage or pages.

GUIDE 112

CUIDE 114

DD Form 836

PORTENTIAL BAZARDE

MAY EXPLORE AND THROW PRACMENT \$ 1600 METERS (I MILE) OR MORE IF PIET REACHE 9 CARGO.

THE MALTITULATED ST.

The tray produce including, contains saddle toric gaves.

PUBLIC SAFETY: CALL CHEOGRACIAN 1-801-434-9308.

- braidwagell or look and immediately for of heat 300 moters (10) while in al. . direction. More people out of line of tight of the some and away from
- Kang-unautherized personnel away and stay upwind.
 Ventilate closed spices before entering.

PROTECTIVE CLATHING:

When profess processed furnished bentling appeared (SCIII).

Smoothal findigines' processor obtains all only professor and a publications.

LARGE SPILL

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EMERGENCY RESPONSE INFORMATION

Quide Numbers 183 and 184 from the U.S. Department of Trung original North-American Emergency Response Guide Book (\$59 & Bitth) To me very observed hereon. These guides are applicable to hence d'Class I materials (Explosives). Mak as X in the appropriate tox.



USE OUTDE 112 FOR EXPLOSIVES. TORE OFFICE REPRESENTATIONS AND THE TRAINING €1.45 Class C

For all other hazardous materials or substances, anaptare appropriate emergency Response Oulde Book Ouide Number in the blook H. a.; and attech a copy of the sade number giage or pages.

GUIDE 112

CUIDE 114

DD Form 836

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DD Form 626



 Used for inspecting both commercial & government vehicles that move placardable quantities of hazardous material on public roads (FR 55-1)

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DD Form 626 (Cont)



- DD Form 626 is used to verify required documentation for government vehicles including:
 - Checking to ensure the driver's military license has been annotated with the HAZMAT training attended

DD Form 626

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Government Bill of Lading

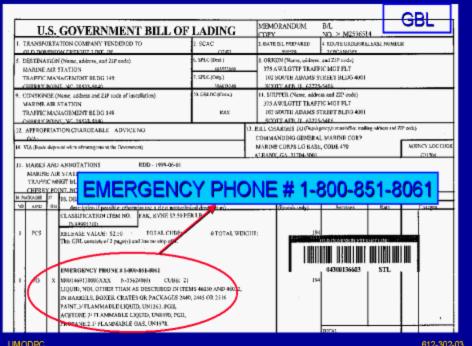


- Used when civilian company is moving government goods
- Note that a DD Form 626 is also required for HAZMAT shipments.

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or 2-302-0





Shippers Certification



 49 CFR, Para 172.204 - "..each person who offers a hazardous material... shall certify that the material is offered in accordance with this subchapter by printing (manually or mechanically) on the shipping paper containing the required shipping description the certification"



Shippers Certification (Cont)



- "This is to certify that the ('above-named' or 'herein-named') materials are properly classified, described, packaged, marked and labeled, and are in proper condition for transportation according to the applicable regulation of the Department of Transportation"
- There are several ways to word the certification. consult Para 172.204 for variations, i.e., air.



Shipper's Declaration for Dangerous Goods

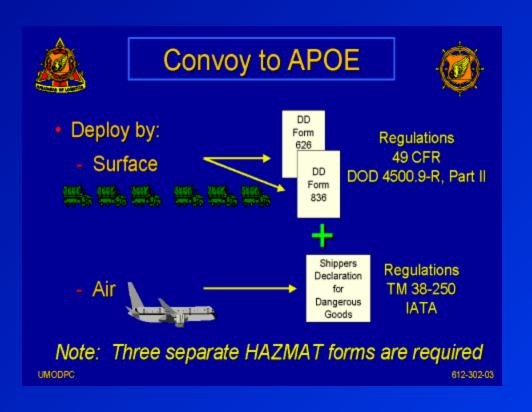
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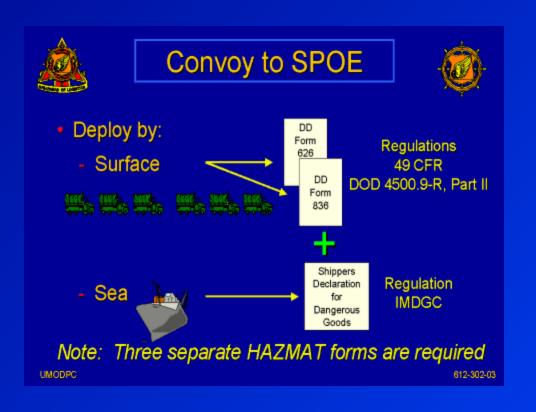
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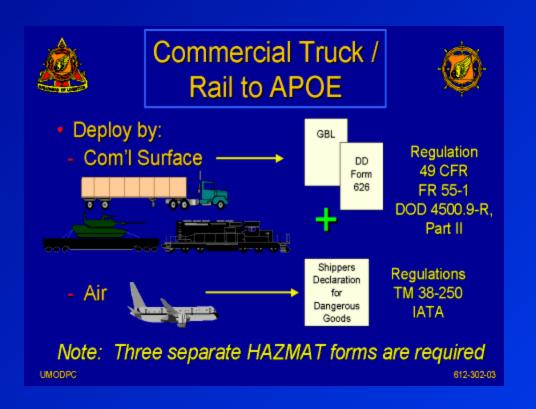


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Emergency Response Information



- Emergency response information provided on shipping documents must be printed in English and include:
 - A 24-hour emergency response telephone number (with area code & international access codes) monitored at all times by a person who is knowledgeable in the material and emergency response procedures



Training Requirements



- Mandatory for all involved with preparation, shipment or certification of HAZMAT for transportation
- Training documented in personnel records until 90 days following separation from DOD
- HAZMAT training is good for 2 years, then refresher courses are required
- Certifier and packaging personnel are appointed in writing by unit commander



Certification Training Requirements



- Certification training must be accomplished at one of four DOD schools located at:
 - U.S. Army Defense Ammunition Center, Savanna, IL
 - School of Military Packaging Technology, Aberdeen Proving Grounds, MD
 - Navy Supply Corps School, Athens, GA
 - 345 TRS / TTTD, Lackland AFB, TX





Hazardous Materials Information

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Classifying HAZMAT



- Three steps to proper HAZMAT Classification:
 - Correctly identify & classify material into one of the nine Hazard Classes
 - Determine any subsidiary risks
 - Assign the item to one of the 3 Packing Groups, if applicable
- Note: A single material may fall into several hazard classes



Identifying HAZMAT



- HAZMAT must be identified by its Proper Shipping Name as listed in the appropriate modal regulation
 - Trade Names (for example, "Drop Dead Fly Trap") are NOT considered proper shipping names
 - Pesticides, solid, toxic, n.o.s. would be the Proper Shipping Name for the above product





- HAZMAT must also be identified by the Chemical Name of the <u>primary</u> hazardous ingredient & proper ID number
 - Example: Dithiocarbamate pesticide, solid, poisonous UN2771
- Packing Group (if applicable) must also be identified





 Packing Groups (PG): indicate degree of danger presented by the material

- PG I: Great Danger

- PG II: Medium Danger

- PG III: Minor Danger





- Packing Group classification example:
 - Hydrogen Peroxide:

Pure -100%: = PG I

7-10% Diluted: = PG II

50 -70% Diluted: = PG III







- ID numbers are not required for:
- Limited Quantity



- Consumer Commodity ORM-D



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9 Hazard Classes



- Class 1 Explosives
 - Divisions 1.1 1.6
 - Examples: Cartridges for weapons, signal flares, safety fuses, dynamite, fireworks
- Class 2 Gases
 - Division 2.1 Flammable Gas
 - Examples: Butane, hydrogen, aerosols





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9 Hazard Classes (Cont)



- Class 2- Gases (Cont)
 - Division 2.2 Non-flammable Gas
 - Examples: Liquefied nitrogen, helium \(^2 \)
 - Division 2.3 Toxic Gas
 - Examples: Aerosols of low toxicity & some tear gas devices
- Class 3 Flammable Liquids
 - By Ocean Divisions 3.1, 3.2 & 3.3
 - Examples: Paint, gasoline, fuel oil



POISON GAS

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9 Hazard Classes (Cont)



- Class 4 Flammable Solid
 - Division 4.1 Flammable Solid
 - Examples: Matches, sulphur, Nitronaphthalene
 - Division 4.2 Spontaneously Combustible
 - Examples: White or yellow phosphorus, magnesium diamide
 - Division 4.3 Dangerous When Wet
 - Examples: Calcium carbide, sodium, lithium



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9 Hazard Classes (Cont)



- Class 5 Oxidizing Substances & Organic Peroxides
 - Division 5.1 Oxidizer
 - Examples: Ammonium nitrate fertilizer, pool chlorine
 - Division 5.2 Organic Peroxides
 - Examples: MEK peroxide, dibenzoyl peroxide





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9 Hazard Classes (Cont)



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POISON

Class 6 - Poisonous (Toxic) Substances
 & Infectious Substances

- Division 6.1 Poisonous (toxic) substances

* Examples: Nicotine, cyanide, arsenic

- Division 6.2 Infectious Substances

Examples: Diagnostic specimens, biological products



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9 Hazard Classes (Cont)



- Class 7 Radioactive Materials
 - Examples: Medicines, instruments



- Class 8 Corrosives
 - Examples: Battery acid, mercury



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9 Hazard Classes (Cont)



- Class 9 Miscellaneous Dangerous Goods
 - Examples: Dry ice, cosmetics, life rafts, asbestos, magnetized materials, consumer commodities, other regulated substances, internal combustion engines, motor vehicles



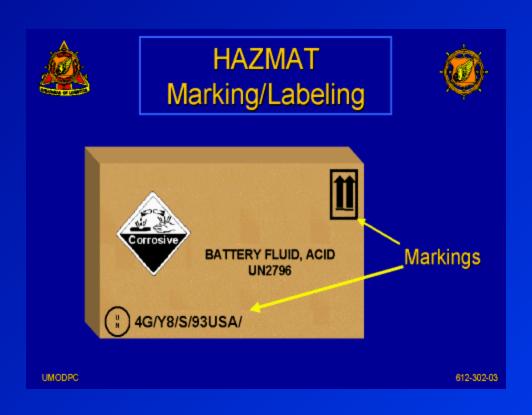
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HAZMAT Packaging & Marking/Labeling



- Use UN or other authorized packaging
- Packaging materials must be compatible with the hazardous material being packaged
- Multiple substances in one package must be compatible with each other
- In addition to shipper/consignee information, HAZMAT shipments require additional marking/labeling





HAZMAT Marking/Labeling (Cont)



- Markings must be:
 - Durable
 - In English
 - Un-obscured
 - Sharp contrasting background
 - Away from other markings





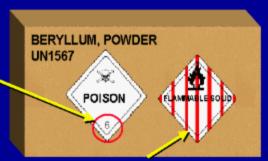




Subsidiary HAZMAT Labeling



 Primary hazard class label with hazard class
 number



 Subsidiary hazard class label without hazard class number









Hazardous Material Compatibility



 Packages containing HAZMAT which might react with one another may not be stowed next to each other

 Know the Hazard Identify





Hazardous Material Compatibility (Cont)



- HAZMAT segregated by Hazard Classification
 - Flammable / Combustible
 - Corrosives (acids I bases)
 - Oxidizers
 - Compressed Gases
- Use DLA Inst 4145.11 as a guide



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Hazardous Material Compatibility (Cont)



- Incompatible = "unwanted reaction"
- Incompatible mixtures may produce:
 - Heat
 - Fire
 - Explosion
 - Toxic gases/vapors



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